

CLAIMS:

- 1 A hockey stick blade comprising a shank, a heel section and a blade element
5 having a top edge, a tip edge and a bottom edge, said hockey stick blade
 further comprising a core extending along a longitudinal axis, said core
 comprising a first portion located above a second portion;
 (a) said first portion comprises a bottom surface and extends from said
 heel section to said tip edge, said first portion being made of foam
10 having a first density; and
 (b) said second portion comprises a top surface and extends from said heel
 section to said tip edge, said second portion being made of foam
 having a second density, said second density being higher than said
 first density.
15
2. A hockey stick blade as defined in claim 1, wherein said first density is
 between 6 and 12 lbs/cubic foot.
3. A hockey stick blade as defined in claim 2, wherein said second density is
20 between 14 and 18 lbs/cubic foot.
4. A hockey stick blade as defined in claim 3, wherein said bottom surface of
 said first portion extends generally along the longitudinal axis of said core.
- 25 5. A hockey stick blade as defined in claim 4, wherein said top surface of said
 second portion extends generally along the longitudinal axis of said core.
6. A hockey stick blade as defined in claim 3, wherein said blade element is
 defined by a heel region, a tip region and a middle region therebetween, said
30 heel region extending from said heel section.

7. A hockey stick blade as defined in claim 6 wherein said top surface of said second portion extends beyond the longitudinal axis of said core in said heel region.
- 5 8. A hockey stick blade as defined in claim 7, wherein said bottom surface of said first portion extends beyond the longitudinal axis of said core in said tip region.
9. A hockey stick blade as defined in claim 8, wherein said bottom surface of
10 said first portion generally follows said top surface of said second portion.
10. A hockey stick blade as defined in claim 9, wherein said foam is a thermo-expandable foam selected from the group consisting of polyurethane foam, ethylene vinyl acetate (EVA) foam, polyvinyl chloride (PVC) foam, ethylene
15 polypropylene foam and polyisocyanurate foam.
11. A hockey stick blade as defined in claim 10, wherein said blade comprises a first fibers braid covering said first portion.
- 20 12. A hockey stick blade as defined in claim 11, wherein said blade comprises a second fibers braid covering said second portion.
13. A hockey stick blade as defined in claim 12, wherein said blade comprises a third fibers braid covering said second expandable fibers braid.
- 25 14. A hockey stick blade as defined in claim 13, wherein said blade comprises a fourth fibers braid covering said first and third expandable fibers braids.
15. A hockey stick blade as defined in claim 14, wherein said first, second, third
30 and fourth fiber braids are made of fibers selected from the group consisting of

carbon fibers, glass fibers, KEVLAR fibers, ceramic fibers, boron fibers, quartz fibers, spectra fibers, polyester fibers and polyethylene fibers.

- 5 16. A hockey stick blade as defined in claim 15, wherein said first, second, third and fourth fiber braids are made of fibers crossing at between 30° and 60°.
- 10 17. A hockey stick blade as defined in claim 16, wherein said blade comprises an interface between said first and second portions, said interface comprising fibers oriented transversely relative to the longitudinal axis of said core.
- 15 18. A hockey stick blade as defined in claim 17, wherein at least one of said top, tip and bottom edges of said element comprises fibers oriented transversely relative to the longitudinal axis of said core.
- 20 19. A hockey stick blade as defined in claim 18, wherein said shank comprises a tenon adapted to be inserted into a hollow hockey stick shaft.
- 20 20. A hockey stick blade as defined in claim 19, wherein said first and second portions of said core further comprise respective first and second shank portions with respective first and second tenon portions.
- 25 21. A hockey stick blade as defined in claim 20, wherein said first and second expandable fibers braids further cover said respective first and second shank portions, said third expandable fibers braids further covers said second expandable fibers braids over said second shank portion and said fourth expandable fibers braids covers said first and third expandable fibers braids over said respective first and second shank portions.
- 30 22. A hockey stick comprising a blade as defined in claim 1 and a shaft, wherein said shank of said blade is integrally formed with said shaft.

23. A hockey stick comprising a hollow shaft and a blade as defined in claim 19.
24. A hockey stick blade as defined in claim 9, wherein said bottom and top
5 surfaces are affixed together.
25. A hockey stick blade as defined in claim 24, wherein said core comprises back
and front faces.
- 10 26. A hockey stick blade as defined in claim 25, wherein said blade comprises a
back layer recovering said back face and a front layer recovering said front
face.
- 15 27. A hockey stick blade as defined in claim 26, wherein said back and front
layers are made of a material having higher rigidity than said core.
28. A hockey stick blade as defined in claim 27, wherein said front layer is thicker
than said back layer.
- 20 29. A hockey stick blade as defined in claim 27, wherein said foam is a thermo-
expandable foam selected from the group consisting of polyurethane foam,
ethylene vinyl acetate (EVA) foam, polyvinyl chloride (PVC) foam, ethylene
polypropylene foam and polyisocyanurate foam.
- 25 30. A hockey stick blade as defined in claim 29, wherein said front and back
layers comprise material selected from the group consisting of carbon fibers,
glass fibers, KEVLAR fibers, ceramic fibers, boron fibers, quartz fibers,
spectra fibers, polyester fibers and polyethylene fibers.

31. A hockey stick blade as defined in claim 30, wherein said shank comprises a tenon adapted to be inserted into a hollow hockey stick shaft.
32. A hockey stick comprising a hollow shaft and a blade as defined in claim 31.